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### A professional development on Autism Spectrum Disorders for special education teachers

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Pepperdine University  
Graduate School of Education and Psychology

A PROFESSIONAL DEVELOPMENT ON AUTISM SPECTRUM DISORDERS  
FOR SPECIAL EDUCATION TEACHERS

A dissertation submitted in partial satisfaction  
of the requirements for the degree of  
Doctor of Education in Organizational Leadership

by

LaShunda Murphy

February, 2016

Nancy Harding, Ed.D. – Dissertation Chairperson

This dissertation, written by

LaShunda Murphy

under the guidance of a Faculty Committee and approved by its members, has been submitted to and accepted by the Graduate Faculty in partial fulfillment of the requirements for the degree of

DOCTOR OF EDUCATION

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## VITA

### **Education**

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### **Professional Experience**

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Teaching children with specific learning disabilities, developing Individualized Education Programs (IEP) for each student, preparing lesson plans, collaborating with teachers and parents.		

Testimonial Christian School	Administrator	2006-2007
Assist principal in overseeing the daily operations of the school and handling student disciplinary actions.		

Inglewood Christian School	Teacher	2004-2006
Teaching Math and Science courses to students in grades seventh and eighth and maintaining a well-organized, disciplined classroom.		

## ABSTRACT

This study examined the effects of a 2-day professional development for special education teachers of students who have Autism Spectrum Disorders (ASDs). The professional development included general knowledge of ASDs and teaching strategies that could be used in the classroom to assist children with ASDs. This study also ascertained teachers' perceptions and knowledge gains as a result of participating in professional development opportunities on ASD.

The overarching research question addressed in this study was: Does a professional development on ASDs for special education teachers increase their knowledge of ASD and their knowledge and ability to implement strategies in the classroom? The specific research questions were:

1. Does the professional development change teachers' perceptions of students with ASD?
2. Does the professional development increase the special education teachers' knowledge of ASD?
3. Does the professional development provide specific teaching strategies directly related to students with ASDs' success?

The researcher employed a mixed methods approach for this research study. The researcher collected data using the ASD Inventory (pre and post assessment). The study measured participants' perceptions and knowledge of ASD, provided evidence-based practices to the participants, and assessed the participants' comfort levels teaching students with ASD. The inventory assessments were analyzed using paired-samples t-test to obtain the final results.

The overall goal of this study was to learn about how to create effective professional development experiences for special education teachers in the area of ASDs. The goal was to

enhance teachers' perceptions of teaching students with ASD, increase their technical knowledge of ASD, and improve their knowledge of strategies to use when teaching students with ASD, as assessed by the ASD Inventory.

The major findings in this study were that after a 2-day professional development on ASD, there was a significant change in teachers' perceptions of students with ASD, as well as a significant increase in teachers' knowledge of ASD. Evidence of teaching strategies provided by the professional development was indicated through the assessment and teacher participation. Therefore, teachers learned strategies to meet the needs of students with ASDs.

## **Chapter 1. Introduction**

Autism affects one in 88 children and one in 54 boys and is the fastest growing serious developmental disability in the United States (Wright & Wright, 2014). As the number of children with Autism Spectrum Disorders (ASDs) increases, so, too, does the number of children in attendance in public schools across the United States. Since there are a growing number of children with ASD in the United States (Leblanc, Richardson, & Burns, 2009), there is a need for all special education teachers to learn about ASD and how to meet the learning needs of children with ASD in the classroom.

Professional development for teachers is an important issue in improving schools. Improving America's School Act of 1994, along with the No Child Left Behind Act of 2001, focus on professional development for teachers. The Improving America's School Act 1994 emphasizes the quality of instruction by providing teachers with opportunities for professional development (Islas, 2010). In order to improve instruction, there must be a variety of effective professional development approaches to ensure high quality instruction and knowledge of strategies to educate children from all learning aspects (Dow & Mehring, 2001).

Currently there are professional development opportunities, higher educational institutions and school district settings that offering classes or sessions on ASDs to inform special education teachers about the disabilities and how they can meet the needs of children with ASD in the classroom (Hess, Morrier, Heflin, & Ivey, 2008; Jenkins & Yoshimura, 2010; Kokina & Kern, 2010; Leblanc et al., 2009). In this study, the researcher conducted an ASD professional development for special education teachers.

## **Background of Problem**

There are many professional development opportunities focused on teaching strategies for teachers in general education in the United States. For special education teachers, there are a few professional development opportunities focused on teaching strategies to assist children with special needs (Menlove & Lignugaris-Kraft, 2004). As society changes, there are new issues in education to be addressed. One issue that is currently being given a lot of attention is meeting the needs of children with ASDs and what strategies teachers can use in the classroom to help these students. Professional development on ASDs must be offered to special education teachers so teachers can successfully assist those students with ASDs.

According to researchers Leblanc et al. (2009), “Autism Spectrum is a developmental disability with a neurological base that effects the normal functioning of the brain” (p. 166). There have been controversies over the prevalence rate and the origin of this developmental disability that affects children (Leblanc et al., 2009). More children are being diagnosed with ASDs and they appear in special needs classes; therefore, special education teachers need to better understand ASDs.

ASD has been in existence for thousands of years. In 1799, a man name Jean Marc Gaspard Itard observed a young boy who he found living in the woods among wolves and diagnosed the boy with Autism (Heflin & Alaimo, 2007). Jean Marc Gaspard Itard made history in special education when he discovered the boy in the woods. Since then people have recognized children with ASD as disabled individuals. Research has not yet discovered the answer to how or why children are born with ASDs.

## **Purpose and Importance of Study**

This study examined the effects of a two-day professional development for special education teachers of students who have ASD. The professional development included general knowledge of ASDs and teaching strategies and techniques that could be used in the classroom to assist children with ASDs. In addition, this study also assessed teachers' perceptions and knowledge gains as a result of participating in professional development sessions on ASDs; participants had the opportunity to provide information that informed best practices for professional development for special education teachers.

The study measured participants' perceptions and knowledge of ASDs, provided evidence-based practices to the participants, and assessed the participants' comfort levels teaching students with ASDs (Leblanc et al., 2009). In conducting this study, the overall anticipated outcome was learning how to create an effective professional development for special education teachers in the area of ASDs. The goal was an improvement in teachers' perceptions of teaching students with ASDs, a gain in their technical knowledge of the ASD Inventory, and increased knowledge of the strategies to use when teaching students with Autism as assessed by the ASD Inventory.

## **Research Questions**

This study examined the effects of a professional development model that was implemented with special education teachers from two urban public schools. The overarching research question explored whether or not a professional development on ASDs increases the knowledge of special education teachers. Three sub-questions were derived from the overarching research question:

1. Does the professional development changes teachers' perceptions of students with ASD?
2. Does the professional development increase the special education teachers' knowledge of ASD?
3. Does the professional development provide specific teaching strategies directly related to students with ASDs' success?

### **Conceptual Hypothesis**

The study examined if special education teachers can learn new strategies, gain knowledge, and change their perceptions about children with ASDs as the result of a two-day professional development. Researchers have conducted studies on professional development opportunities regarding how teachers learn, what they learn, and what they take back to the classroom (Nougaret, Scruggs, & Mastropiei, 2005; Trotter, 2006). According to Guskey (2000), "Professional development is a deliberate process guided by a vision of purposes and a planned goal" (p. 17). Professional development is a part of every educator's professional growth, whether it is in a higher educational institution, short-term workshops, a school district setting, or a local school setting. Guskey described many different models and designs of professional development, including: training, observation/assessment, involvement in a development/improvement process, study groups, inquiry/action research, individually guided activities and mentoring. Boyle, Lamprianou, and Boyle (2005) described the factors that make professional development effective for teachers. The factors that make a professional development effective are course attendance, sharing the expertise of teacher in the same school, sharing knowledge and skills with teachers in other school, and using consultants to provide in-school programs of support to tackle the specific needs (p. 3). The most effective models and

designs for teacher professional development are the site-based study groups and inquiry/action research (Vacca, 1994). Vacca (1994) described how effective site-based study groups and inquiry/action research are in professional development for improving teacher instruction.

Jenkins and Yoshimura (2010) described the needs of general education teachers and how they can prepare themselves to meet the needs of children with disabilities by attending professional development. The researchers described how a student support coordinator used a five-step guide to plan a professional development to support general education teachers with special needs students in a special education professional development.

Studies have been conducted specifically on special education teachers participating in professional development and continuing their education to increase their knowledge to meet the needs of children with disabilities. Yssel, Koch, and Merbler (2002) described a snapshot of a professional development participation by special education teachers in a teacher preparation program in a higher education institution. Leko and Brownell (2009) wrote an article on components that are important in a professional development for special education teachers. The authors discussed the number of special education teachers that are not prepared to enter into the classroom and meet the needs of children with disabilities. McCray (2012) conducted a study on beginning special education teachers completing a Master of Arts in Teaching. McCray described a fast track certificate teaching program for special education teachers focusing on understanding the implementation of the program, understanding the teaching context to produce teacher success, and understanding teachers' backgrounds and career paths. In this study, participating special education teachers had the opportunity to participate in a professional development on ASDs in a public school site in the Los Angeles Unified School District. This



study provided special education teachers with strategies and knowledge to meet the needs of children with ASDs.

Prior research has been conducted on special education teachers meeting the needs of children with ASDs. Hess et al. (2008) conducted a study on services received by children with ASDs. The researchers described types of treatments, therapies, and interventions currently being used by special education teachers working with children with ASDs. Kokina and Kern (2010) described the use of Social Stories as an intervention for children with ASDs and how Social Stories help children to demonstrate positive behavior. In this study, participating special education teachers participated in a two-day professional development to gain knowledge of what assessment tools to use with children with ASDs and strategies to assist children with ASDs in the classroom.

Further research was conducted on how special education teachers are prepared. Brownell, Sindelar, Kiely, and Danielson (2010) described the quality and preparation of special education teachers, explaining changes in policy and practices of special education teachers from 1960 to the present. The special education teacher preparation programs included technology and increased knowledge about qualities of effective special education teachers. Nougaret et al. (2005) described how teacher education programs could better prepare special education teachers. Another study on special education preparation program, conducted by Robb, Smith, and Montrosse (2012), described how well a special education program was planned and the quality of the special education faculty preparing the next generation teachers for the classroom. Busby, Ingram, Bowron, Oliver, and Lyons (2012) discussed the challenges and preparation needs of special education teachers who teach children with Autism, gathering information to create curricula for improving teacher preparation programs at a university. Wilcox, Putnam, and

Wigle (2002) assessed strengths and weaknesses of a teacher preparation program for special education teachers to ensure program excellence. Brownell, Ross, Colon, and McCallum (2005) continued the discussion on teacher preparation programs for special education teachers as well as general education teachers through a review of practices in teacher education and special education program descriptions and evaluations.

Researchers have conducted studies on teachers voicing their perceptions of professional development (Voltz, 2001). In evaluating professional development and other education programs, it has been demonstrated that effective educational programs increase teachers' knowledge and skills to help them be competent in working with children with ASDs (McDougall et al., 2009). Professional development and educational programs need to provide specialized instruction on ASDs in order to be useful to special education teachers (Lerman, Vorndrain, Addison, & Kuhn, 2004).

Researchers have examined the effects of a professional development component in a teacher training facility and measured participants' perceptions and knowledge of ASDs (Leblanc et al., 2009). Leblanc et al. (2009) gave a brief description of ASDs and discussed students with disabilities depend on teachers who are experienced and provide support.

The researcher in the current study examined a professional development and measured participants' perceptions and knowledge of ASDs. The researcher used qualitative and quantitative approaches to gain information regarding a two-day professional development session. The researcher gave a pretest and a posttest to special education teachers before and after the professional development. The researcher used the ASD Inventory to evaluate teachers' perceptions and knowledge of teaching students with ASDs using a four-point Likert scale. The researcher charted all teacher participant scores, comparing pretest and posttest results and to see

if teachers' knowledge and skills increased. The inventory assessments were analyzed using paired-samples t-tests to obtain the final results. During the two-day session, teachers learned effective teaching strategies and techniques to serve children with ASDs. The research attempted to answer the following question: Does a professional development on ASDs for special education teachers increase their knowledge of ASD and their knowledge and ability to implement strategies in the classroom?

### **Clarification of Terms**

*Autism Spectrum Disorder (ASD):* A developmental disability with a neurological basis that affects the normal functioning of the brain (Leblanc et al., 2009).

*Improving America's Schools Act of 1994:* A school reform law focusing on upgrading the quality of instruction by providing staff in participating schools with substantial opportunities for professional development (Islas, 2010).

*No Child Left Behind Act (NCLB) of 2001:* The No Child Left Behind Act (NCLB), signed into U.S. law in 2002, seeks to increase accountability for student performance in public schools (Islas, 2010; Yell, Drasgow, & Lowrey, 2005).

*Professional Development:* A deliberate process guided by a vision of purpose and a planned goal (Guskey, 2000).

*Special Education:* The provision of free and appropriate education to children who have special needs (Yell, Ryan, Rozalski, & Katsiyannis, 2009).

### **Summary**

Professional development for teachers improving skills and using strategies in the classroom to meet students' needs has been an important issue in education. NCLB was passed in 2002 to increase accountability for student performance in public schools across the United

States. This act includes all students regardless of race, gender, or disability. In order to improve student performance, teachers are encouraged to participate in professional development. The Improving America's School Act of 1994 focuses on professional development for teachers emphasizing quality of instruction by providing teachers with opportunities for professional development (Islas, 2010). There are a few existing professional development opportunities for special education teachers to increase knowledge and learn new strategies to meet children's special needs. One of the most pressing current issues in special education is meeting the needs of children with ASDs. In this study, the researcher examined the effects of a professional development component in a teacher training facility and to measure participants' perceptions and knowledge of ASDs (Leblanc et al., 2009).

## **Chapter 2. Review of Literature**

Since the signing into law of NCLB in 2002, training teachers has been a popular topic across the United States (Islas, 2010). Currently, there is a shortage of special education teachers and special education professional development programs (Menlove & Lignugaris-Kraft, 2004). This literature review discusses the current state of professional development for special education teachers and how these teachers can continue learning how to be more effective in the classroom. In addition, this review examines special education teachers' learning about new issues in the field and how special education teachers can meet the needs of all children's in their classroom, especially children with Autism.

Professional development serves to extend the knowledge of teachers and refine teachers' teaching skills in the classroom. Many research studies have been conducted on professional development, exploring topics such as how teachers learn, what they learn, and what they take back to the classroom from professional development (Nougaret et al., 2005; Trotter, 2006). Research has investigated how to conduct an effective professional development, what works in professional development, and how teachers perceive professional development sessions (Boyle et al., 2005; Guskey & Yoon, 2009; Leko & Brownell, 2009; Menlove & Lignugaris-Kraft, 2004; Vacca, 1994). Special education teachers are experiencing a shortage of professional development in their area of expertise (Nougaret et al., 2005). There is not enough information on the effectiveness of professional development programs to indicate whether or not teachers are learning teaching strategies; however, there are many professional development plans that provide support and strategies to help motivate teachers to educate children with disabilities. The following sections will include: (a) a general overview of professional development for teachers, (b) professional development for special education teachers' continuing education, (c) specific

professional development for general and special education teachers in the area of Autism, and (d) special education teacher preparation.

### **What is Professional Development for Teachers?**

**Background.** According to Dudzinski, Roszmann-Millican, and Sbank (2000), changes in professional development for teachers began to emerge in the 1980s. Teacher preparation programs in special education began in residential facilities headed by clinicians and eventually moved away from residential facilities to teacher colleges (Brownell et al., 2010). University programs needed guidelines and standards to help develop teacher programs. In 1989, the Council for Exceptional Children Delegate Assembly adopted standards for the professional practice of special education by special educators. One of the standards is that special education teachers should continue professional development to maintain high levels of competence in educating learners with disabilities. This is a result of the 1997 Amendment to the Individuals with Disabilities Education Act (IDEA). Individuals with Disabilities Education Act (2004) ensures that children with disabilities have the opportunity to receive a free and appropriate public education, just like other children.

Professional development in the area of education can be delivered in graduate courses, offered through school districts, or given in short-term workshops and presentations headed by professional educators or consultants who work with teachers, schools, or districts. In *Evaluating Professional Development*, Guskey (2000) provided a clear view of what professional development in education is. He discussed what professional development is, the various models of professional development, the advantages and shortcomings of professional development, what designs work best, and what makes professional development effective. This research used

Guskey's definition of professional development: that is, "Professional development is a deliberate process guided by a vision of purposes and a planned goal" (p. 17).

Guskey (2000) described and discussed the advantages and disadvantages of the many different models and designs of professional development: training, observation/assessment, involvement in a development/improvement process, study groups, inquiry/action research, individually guided activities, and mentoring. Two major categories of professional development design are implemented in professional development: district-wide designs and site-based. The district-wide design is based on one-time presentations that address the day-to-day problems at the schools. The site-based design addresses the daily problems and curriculum of the school; this design is typically created by higher level educators, school principals, and instructional coaches.

Many researchers have conducted studies using the models and designs Guskey (2000) described in his book. Some researchers have combined models in their studies on professional development. One example of this is the work by Boyle et al. (2005) who combined models in their research on professional development.

**Practice-based models.** Boyle et al. (2005) conducted a two-year examination of the factors that makes professional development effective. They used a quantitative survey to ask primary and secondary teachers in 112 schools in England about their professional development. Her Majesty's Inspectors visited 112 schools to evaluate the effect of professional development activities designed to raise academic standards in schools. The findings showed that certain types of professional development activities seemed to help teachers to create learning opportunities, such as providing teachers with sufficient time for collaboration, activities, and content that increases knowledge, as well as encouraging teachers to implement positive and meaningful

changes in their classroom practices. Boyle et al. presented different types of professional development activities in their study, offering details about structured study groups including collaboration, coaching or mentoring, and immersion in inquiry.

In other research on professional development, site-based study groups and inquiry/action research for teachers were shown to be effective in teacher collaboration. At Ohio's Literacy Summit in April 1993, the educators who attended the summit indicated that teachers work best through collaboration and decision making processes when attending professional development opportunities (Vacca, 1994). In the article written by Vacca (1994), teachers in Washington had the opportunity to improve instruction by conducting action research using data from assessments and observation of students for seven years. Vacca (1994) suggested that successful professional development related directly to classroom instruction and student learning. Doing so gives teachers the opportunity to reflect on their work, collaborate with other educators, and commit to taking time for learning throughout a long-term career in education. Vacca recommended two strategies to help teachers to construct personal meaning and solve problems: reading autobiographical sketches and conducting action research projects. Using an autobiographical sketch helps to connect personal history to instructional beliefs and practices. Teachers can use this tool to reflect on their own learning through reading and life experiences. Teachers who conduct action research projects are investigating questions they have generated from their own practices and problems in the classroom or in the school. Once they have identified the problem, they ask questions to help guide their study and engage in practice-centered inquiry to improve instruction and learning in the classroom. Both strategies allow teachers to reflect, make connections, and better understand what needs to be done in the classroom in both the present and the future.



Another professional development method involves using professional practice portfolios during observations and assessments. A professional practice portfolio is an assessment tool used to prepare special education resource teachers for a new role as resource teachers: Learning and Behavior through a professional development program. The portfolio also is used to examine how special educator resource specialists learn and enhance meta-cognitive awareness. The portfolios support constructive alignment, promote learning, and bring different learning outcomes to teachers who use traditional assessments (Jones, 2010). Research indicates that special education teachers may benefit from using portfolios in assessments. During a four-year study conduct by Jones (2010), 168 special educator resource specialists were held responsible for their learning by using a professional practice portfolio. The special education resource specialists were required to create a portfolio providing evidence of learning objectives including support from research and literature. The special educator resource specialists had to provide statements on personal theories, beliefs, and values. They also were required to provide reflection on technical/practical practice in relation to outcomes of the casework, interpretation/contextual practice with personal theory, and reflection on what is critical socio-political issues. The portfolio process occurred in three stages: reflection during the selection of evidence, reflection during annotation of evidence for presentation in the portfolio, and reflection during conversations with peers and faculty advisors. The researcher found that a well-organized portfolio has several critical components: quality learning through theory and practice, promoting self-assessments, reflection, critical thinking, and enhancing the teaching practices in the workplace.

Mentoring is another model of professional development for educators. Mentoring provides emotional support to new teachers, improves reflective practices, provides opportunities

for direct shared experiences and discussions on classroom practices. The mentoring model connects learning to workplace tasks and responsibilities (Dempsey, Arthur-Kelly, & Carty, 2009). The effectiveness of mentoring comes from a well-experienced mentor who is providing support to teachers in their classrooms. Mentoring has been noted to be a successful model that can influence special education teachers to stay in the educational field. Many higher educational institutions use the mentoring model to support early career educators in their future profession. In 10 United States studies conducted between 1991 and 2001, it was found that all beginning special education teachers were being inducted in mentoring programs. During this time mentoring programs were found to be successful based on the development of a relationship between the mentor, an experienced teacher and the mentee, a beginning special education teacher along with providing assistance in meeting the needs and challenges of beginning teachers. Special education teachers were highly satisfied with mentoring. Mentoring improved their self-confidence, collaboration, and intentions to remain in the teaching profession for the next five years (Dempsey et al., 2009).

Some research has indicated that special education teachers may also benefit from online mentoring (Andrews & Quinn, as cited in Dempsey et al., 2009; DeWart, Babinski, & Jones, as cited in Dempsey et al., 2009). Mentoring online can be done in chat-rooms and blogs. Mentoring needs to be regular and sequential, and online opportunities may be able to provide that type of support (Dempsey et al., 2009). Based on a review of earlier studies, Dempsey et al. (2009) found that mentors who have special education teaching expertise and offer online support, offer valuable advantages over school-based mentoring support such as planning needs, teaching process, and networking with relevant professionals. Studies on online mentoring for special education teachers have shown that beginning teachers who participated in mentoring

programs received increased emotional support, their confidence as teachers increased, they were more enthusiastic about work, they reflected more on their teaching skills, and their problem solving skills improved (DeWart et al., as cited in Dempsey et al., 2009).

Jenkins and Yoshimura (2010) described the needs of general education teachers and how they can better prepare themselves to meet the needs of children with disabilities by attending professional developments using research briefs. Jenkins and Yoshimura presented a case study on a Student Support Coordinator at Sunshine Elementary School who realized that over the years more students with disabilities were included in general education classes. The 18 general education teachers of Sunshine Elementary School addressed their concerns about the lack of training and knowledge in special education and their need for a professional development at their school. The Student Support Coordinator found a five step guide from researching professional development to help her guide and plan a professional development at the school: (a) build readiness; (b) conduct planning; (c) implement training; (d) allow for implementation; and (e) maintenance. The Student Support Coordinator conducted a six-week study using the five step guide along with research briefs. The research briefs are a series of briefs based on research based instructional practices for teaching students with disabilities (Jenkins & Yoshimura, 2010). A follow-up was conducted by using a one-page questionnaire with the teachers as well as classroom observation to determine if teachers were using the teaching practices from the research briefs. According to Jenkins and Yoshimura, in the process of following the coordinator's work with the teachers, they learned that:

Professional development activities were more likely to provide teachers with the skills they need to assist students in meeting the academic content and achievement standards

and were more likely to have a positive and lasting impact on classroom instruction when they carefully plan lessons. (p. 37)

### **Professional Development for Special Education Teachers**

Professional development opportunities for special education teachers appear to be less defined than those offered for regular education teachers (Yssel et al., 2002). Yssel et al. (2002) conducted a study on special education teachers' involvement in professional development. The purpose of the study was to provide a brief view of professional development participation by special education teachers in teacher preparation programs in higher education institutions. The researchers studied higher educational institutions that are connected to an outside educational agency. The researchers distributed two different surveys at two different times to their special education departments. The first survey was sent via e-mail to randomly selected chairpersons and the second survey was sent via postal service mail to all chairpersons from all special education departments. Findings indicated that the special education department of higher institutions reported that there was no special education teacher involvement in professional development and little, if any, special education teacher involvement in professional developments.

### **Continuing Education for Special Education Teachers**

Special education teachers are seriously challenged to meet the needs of a variety of special needs problems and deliver instruction based on assessments (Leko & Brownell, 2009). Leko and Brownell (2009) wrote an article on components that are important in a professional development for special education teachers. The authors discussed the number of special education teachers that are unprepared to go into the classroom and provide intensive instruction in literacy or mathematics to students with disabilities. Leko and Brownell suggested that

professional development should include the opportunity for special educators to collaborate with general educators, ensuring that special educators are obtaining important information and strategies that they can use in the classroom to enhance student achievement. Leko and Brownell focused on how special educators, especially those who went through a fast track program, may not have a deep understanding of how to provide differentiated instruction and strategies using general curriculum.

Finally, Leko and Brownell (2009) provided guidelines for providing effective professional development, noting that it must: (a) be coherent; (b) align with teachers' goals and needs; (c) align with local, state, and national standards and accountability mechanisms; and (d) align with school wide curricula. An effective professional development focuses on content, collaboration, and student data, providing meaningful and manageable strategies for teachers.

Leblanc et al. (2009) conducted a study on Autism professional development with 105 students in a Bachelor's of education degree program. The purpose of this study was to examine the effects of a professional development component in a teacher training facility and to measure participants' perceptions and knowledge of ASD. The researchers gave a brief description of ASD, noting that students with disabilities depend on experienced teachers who provide support. They administered an ASD Inventory pre- and post-intervention to evaluate the dissemination and acquisition of knowledge of ASD and evidence-based practices. The inventory focused on the perceptions of students with ASD in the form of statements and questions. Each group was then given 200 minutes of training on ASD. The training covered general knowledge of ASDs and teaching strategies and techniques to assist children with ASDs. The researchers found that the training did enhance teachers' general knowledge of ASDs and practices used to support children with ASDs.

McCray (2012) conducted a case study on beginning special educators completing a Master of Arts in Teaching. The purpose of this study was to: (a) understand the implementation of the special education program, (b) understand the teachers' background and career path, and (c) understand the teaching context interacted to generate their success. McCray discussed how an alternative route program for teacher preparation is meant to increase the number of teachers completing a certificate teaching program for special education early. An Alternative Route Program is a fast-track certificate teaching program for people who have an undergraduate degree and want to teach as a second career (Kelly & Dietrich, 1995; McCray, 2012). Researchers stated that teacher fast track programs have not improved teacher performance. In the case study, the participants completed a Master of Arts program from an urban university in the southeast U.S. The program was funded by a federal personnel preparation grant. The program targeted the special education teachers' needs to prepare them with content and pedagogical knowledge at a fast rate. The case study focused on the characteristics of three special education teachers in the program and the success after completing the Master of Arts program. The researcher collected information through application records, professional goal statements, interviews, structured classroom observations, and final evaluations. At the end of the study, it was found that the three special education teachers who went through the alternative route program (Master of Arts in Teaching) indicated that nonacademic characteristics, applied preparation in content and pedagogy, observation of practices, having mentors, and a sense of self-efficacy helped them to be successful as teachers in the classroom.

### **What is Currently Happening with Autism in Special Education Classrooms?**

Hess et al. (2008) conducted a study on services received by children with ASD in the classroom. The purpose of this study was to identify the types of treatments, therapies, and

interventions currently being used by special education teachers working with children with ASDs in Georgia's public schools. The researchers discussed the most common therapies reported by special education teachers in schools: social skills training, applied behavior analysis, positive behavior support, drug treatment, sensory integration therapy, and picture exchange communication system. The researchers used a web-based survey to collect information from teachers who participated in the study. One hundred eighty-five teachers were required to have a computer available to them daily in their workplace. Teachers were asked to complete surveys, which took 30 to 60 minutes daily to complete. The study took three months to complete. Teachers who responded to the surveys indicated that skill-based strategies were used most often in the classroom. Skill-based intervention was the next most frequently used strategy in the classroom. Teachers indicated that they used other strategies in the classroom, such as: visual schedules, structured teaching, interpersonal relationship strategies, gentle teaching, floor time, and relational development intervention.

Kokina and Kern (2010) conducted a meta-analysis of research on the use of social stories with students with ASDs. Social stories are short stories sharing social information to help children with ASD to demonstrate positive behavior in the classroom and at home. This intervention helps children with ASDs to socialize with their peers and in society. The researchers found 18 studies on social stories as an intervention for children with ASD. They coded each study by various factors, including: age, type of school, development disorders, IQ scores, social skill development, and communication skill development ASDs. All of the studies targeted children from ages 0 to 21 from preschool to high school. The Autistic range of the children included Asperger's syndrome, pervasive developmental disorder, and low and high IQ scores. The studies included teachers, parents, and children with Autism. The researchers

examined the effectiveness of social stories for children with ASDs in each study. The researchers found that most of the studies were conducted in a special education classroom. In the majority of the studies, it was found that social stories were read immediately before situation began and were most effective in changing the children's behavior than social stories that were not immediately read after situations.

### **How Are Special Education Teachers Prepared?**

Brownell et al. (2010) wrote an article on the quality and preparation of special education teachers, tracing the changes in special education from the 1960s to the present that responded to developments in research, policy, and practices of special education. The authors discussed how new innovations such as technology and growing knowledge about the qualities of effective teachers have on accountability. The authors further discussed how pressures of being held accountable for student learning helped teachers to increase their knowledge and skills to contribute to student achievement on district, state, national and international assessments. However, at the same time, resources and funding have decreased in public education, especially in the preparation of special education teachers. Further, the authors discussed how children in special education are under-performing as accountability pressures have risen for schools and teachers. Brownell et al. discussed how technology innovations have helped teachers to provide students with disabilities to access complex concepts and engage in higher thinking. Finally, the authors discussed how Response to Intervention (RTI) can be used as a framework for special education teacher preparation. Once special education teachers have a clear understanding of the three tiers in RTI, they may be better able to support students who enter in Tier 3 of RTI. In addition, states should require special education teachers to have a dual credential to better support students in special education. Special education teachers would have more knowledge of



how to teach the general education curriculum while simultaneously implementing differentiated instruction and strategies learned from special education preparation courses.

Nougaret et al. (2005) conducted a study on teacher preparation with special education teachers to determine how teacher education programs could better prepare special education teachers. The researchers studied 40 first year special education teachers from five mid-Atlantic school districts and divided them up into two groups; one group was traditionally credentialed and the other group held emergency credentials. The researchers used a framework for professional practice based on the PRAXIS III criteria developed by Educational Testing Services. The framework was divided into three domains: (a) planning and preparation, (b) classroom environment, and (c) instruction. The teachers completed a self-assessment survey on components from the domains in the framework based on performance and knowledge of teaching. The researchers gave the teachers the first semester to adapt to the classroom. In the second semester all teachers were observed in their classrooms during a 12-week period. Teachers' behavior and activities were observed for 45-50 minutes each session. The observer made notes on teachers' interaction with students and how teachers made comments to their students. The observer also observed the activities the teachers planned for the students and the students' production. Researchers found that the teachers who went through teacher education programs rated higher than those teachers who did not attend a teacher education program in planning and preparation, classroom environment, and instruction.

Robb et al. (2012) conducted a study examining special education preparation programs, including course offerings, current staffing, expanded roles of the faculty, and if there are any relevant program expansions. The purpose of the study was to determine if the special education programs are providing well-planned and qualified special education faculty to prepare the next

generation of teachers for special education. This study focused on 73 teacher preparation programs across the U.S. The researchers randomly selected six states and submitted a 72-item online questionnaire to 59 special education teacher program coordinators over a five-month period. The researchers found that all of the teacher programs offered both special education and general education courses with concentration areas in special education: special education mild/moderate and inclusive collaborative practices. The majority of the programs produce numerous new teachers each year. The surveys indicated that the programs have faculty that are adjunct course, full-time tenured, full-time non-tenured, and graduate student instructors. The researchers also found that doctoral programs offer special education programs with twice as many faculty members and offer more specialty areas in special education than the special education teacher only programs.

Busby et al. (2012) conducted a study on the challenges and preparation needs of special education teachers who teach children with Autism. The purpose of this study was to gather information that would be used to create or revise curricula at Troy University in Alabama. The data collected were used to structure a hypothesis about the education graduate program's effectiveness in preparing teachers for the classroom. They suggested that when teachers begin to feel more confident in their teaching, they will be more motivated and take greater responsibility in teaching children with Autism. One aspect of this study included introducing them to a Nominal Group Technique (NGT) used to facilitate identification of potential areas for improvement in education curriculum at Troy University.

Thirty-one teachers participated in the study. Before the teachers participated in the NGT process, they had to participate in a one-hour session on best practices in teaching children with Autism, which included a lecture and a video. The teachers were asked questions to assess what

they learned from the session, then they were given a topic question of concern that they were asked to answer; there was no right or wrong answer. They were then engaged in a silent problem generation phase for 10 minutes. Each teacher was to generate a list of ideas and share them with each other. The facilitator recorded teacher answers on a smart board. The goal of this collaboration process was to identify the challenges in teaching children with Autism (Busby et al., 2012).

The researchers found that special education teachers need specific qualities to meet the needs of working with children with Autism. Special education teachers must be flexible and willing to adapt curriculum or modify activities that will work for their students. Teachers also indicated that the training programs for general teachers and special education teachers are segregated and all teachers need to have access to current information and strategies to meet the needs of all children with disabilities (Busby et al., 2012).

Wilcox et al. (2002) conducted a study to demonstrate how the data taken from surveys of program graduates and administrators can be used to assess strengths or weaknesses of teacher preparation programs for special educators in order to ensure program excellence. Special education graduates and administrators were examined in areas of responsibility and preparation in instruction, professional collaboration, technology, and inclusion in order to find their weakness and strengths. The researchers found teachers to be well prepared in the areas of instruction, professional collaboration, and inclusion. However, they discovered a need for more teacher preparation in the area of responsibilities in assessments, legal aspects, and technology. In addition, there was a need for improvement in responsibility and preparation in technology. Research has found that students with learning disabilities learn more from using computers in the classroom than general education students.

In reviewing multiple studies on teacher preparation for general education and special education, Brownell et al. (2005) found that many special education teacher preparation programs included field experience, collaboration, and program evaluation to prepare special education teachers for the classroom. The authors also found teacher preparation programs included inclusion and cultural diversity. Field experience, collaboration, inclusion, and cultural diversity in special education teacher preparation programs were found to have a strong emphasis on research-based practices for special educators.

It is important that special education teachers voice their perceptions about professional development. Teachers' perceptions of a professional development can assist in developing a more effective learning environment. Voltz (2001) conducted a study examining the perceptions of special education teachers in professional development schools. According to Voltz (2001) professional development schools are school-college partnerships. Colleges partner up with schools, so students from the teacher education programs can get field experience in the school while attending college. In this research study, twenty-four teachers were interviewed about their perceptions of consulting and collaborating with pre-service teachers. Overall, the teachers felt that consulting and collaborating with student teachers contributed to their professional growth. It was also noted that they learned new ideas from student teachers to support students with disabilities in the classroom. The barriers the teachers faced were not having enough time to spend with the student teachers in a day. This particular study helped special education teachers to increase their knowledge in special education and helped pre-service teachers learn the important strategies, procedures, and skills to support students with disabilities in an inclusion setting.

A few studies have evaluated the effectiveness of programs that prepare special educators who teach children with ASDs. Those studies suggested that the programs evaluated can help educators resolve their concerns and increase their knowledge and skills so they can be competent in working with children with ASDs (McDougall et al., 2009). Researchers McDougall et al. (2009) evaluated a program that provides training, consultation, and resource materials for educators in public schools in Ontario, Canada. The purpose of the training is to increase the knowledge of educators and schools' ability to meet the needs of children with ASDs.

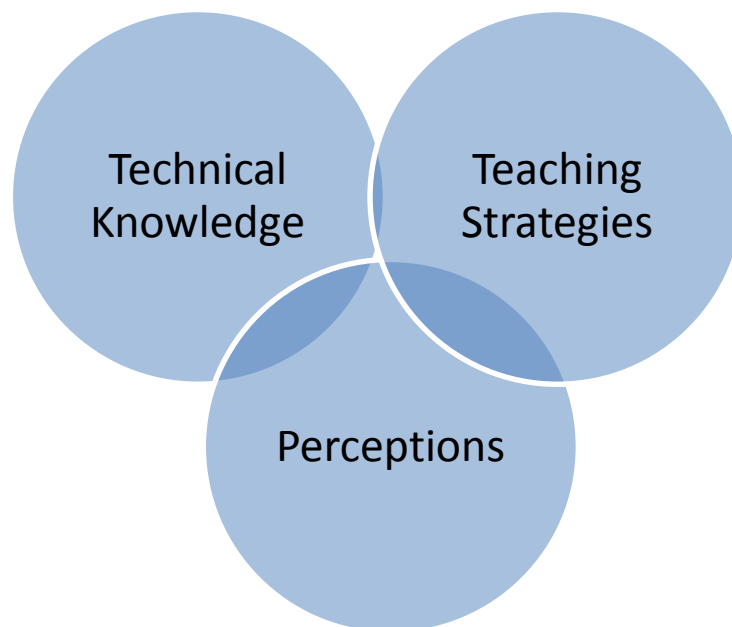
The program was divided into four components: planning, training, consultation, and resource development and sharing. ASD consultants met with the school board and trained educators. The ASD consultants conducted small group workshops at staff meetings and large professional development sessions. Researchers conducted a pretest and a posttest in this study and used the data to determine the final results. The researchers found that educators who participated in the School Support Program-ASD were satisfied with the program and found the components of the program to be useful (McDougall et al., 2009).

Continuing professional development and educational programs are useful; however, the programs need to provide educators with specialized instruction on ASDs (Lerman et al., 2004). For effective practices to be successful when given, it requires performance based measurement of teacher skills to make sure teachers have mastered the skills, demonstrate improvement in child behavior as a result of teacher preparation, and ongoing performance feedback to ensure the maintenance and generalization of the targeted skills. Lerman et al. (2004) conducted a study on preparing teachers in evidence-based practices for children with ASDs. The purpose of this study was to evaluate whether or not teachers could learn multiple strategies in a limited time,

would there be differences in the length of time for skill mastery, and would there be certain strategies preferred over other strategies. Five selected teachers were taught multiple strategies to use in the classroom. Those teachers were observed and videotaped working with children with ASDs for several weeks. Researchers found that all the teachers who participated successfully mastered the skills with the children who participated in the program.

### **Conceptual Framework**

There are three components to professional development on ASDs for special education teachers in this research: (a) teachers' increased knowledge of ASD, (b) teachers' increased knowledge of teaching strategies for children with ASD, and (c) a positive change in teachers' perception of ASD (see Figure 1). After all three components are completed in professional development, teachers will be able to meet the needs of children with ASD (Leblanc et al., 2009). In order to meet the needs of students with ASDs, special education teachers must gain knowledge and support in these three components of the conceptual framework of professional development.



*Figure 1.* Conceptual framework for professional development on ASDs.

In a professional development, the use of teachers' new knowledge learned affects their professional practice in the classroom (Guskey, 2000). According to the U.S. Department of Education's 2003 report (as cited in Nougaret et al., 2005), teacher experience and content knowledge are linked to teacher effectiveness. In this research, teachers' knowledge of ASD and teaching strategies helped teachers become better prepared in the classroom to meet the needs of children with ASDs.

Professional development opportunities can be effective in changing teachers' perceptions of teaching children with ASD (Leblanc et al., 2009). When teachers are given the support and the resources to assist children with ASD, their attitudes are positive when meeting their students' needs. According Leblanc et al. (2009), with proper support and training, teachers begin to believe students with ASD can successfully mainstream into a regular classroom.

### **Summary**

Professional development can come in the form of graduate courses, short-term workshops, or presentations led by professional experienced educators. Professional development consists of various models and designs. Researchers who have conducted studies on professional development have used models such as training, observation/assessment, development/improvement process, study groups, inquiry/action research, guided activities, coaching, and mentoring. Researchers have used various designs when developing professional development courses. Some used a district-wide design or school site-based designs, whereas others created their own site-based design such as using educational centers that are not schools, such as university facilities and websites. Researchers have also conducted studies on intervention methods and strategies to improve teacher skills to meet the needs of children with ASDs. Studies have proven that professional development opportunities have prepared special

education teachers as well as general education teachers for the classroom; these opportunities have improved their self-confidence and increased their knowledge and skills on how to meet the needs of children with learning disabilities, including children with ASDs.



### **Chapter 3. Research Design and Methodology**

This study examined how special education teachers respond to and learn from a professional development on students with ASDs. The professional development was designed and implemented by a special education principal from a large local public school district in Southern California based on best practices for training special education teachers to serve children with ASDs. A detailed description of the participants, the professional development sessions, data collection methods, and data analysis procedures is provided in this chapter.

#### **Purpose Overview**

This study examined how special education teachers respond to and learn from a professional development on students with ASD. The professional development included general knowledge of ASDs and teaching strategies and techniques that can be used in the classroom to assist children with ASDs. The professional development was provided by a local public school special education principal. The study measured changes in participants' perceptions and knowledge of ASDs, provided evidence-based practices, and assessed the participants' comfort levels teaching students with ASDs (Leblanc et al., 2009) before and after the professional development sessions. The anticipated outcomes of this study included an increase in teachers' positive perceptions of teaching students with ASDs, gain in teachers' knowledge of the ASD Inventory, gain in teachers' knowledge of the strategies to use when teaching students with Autism, as well as their general assessment of the professional development on ASDs. This research was guided by three specific questions.

## **Research Questions**

The overarching research question explored whether or not a professional development on ASDs increases the knowledge of special education teachers. The three sub-questions that derived from the overarching research question were:

- 1 Does the professional development changes teachers' perceptions of students with ASD?
- 2 Does the professional development increase the special education teachers' knowledge of ASD?
3. Does the professional development provide specific teaching strategies directly related to students with ASDs' success?

Since the academic literature on this topic is being investigated continuously, the intent of this study was to explore a professional development model that had the potential to add to the knowledge that can inform administrators, special education teachers, professional development facilitators, and school districts about what a professional development on ASD looks like and does it work (see Table 1).

## **Research Approach and Design**

For this study, the researcher used a mixed methods approach. The qualitative approach was based on interviews from special education teachers about their history of special education training, how they feel about professional development for special education teachers, their thoughts about the research on professional development on students with ASD, and what they learned from the professional development about ASD (see Appendix A).

Table 1

*Research Questions Related to Survey Questions*

Research Questions	Survey Questions
Whether or not a professional development on ASDs increases the knowledge of special education teachers?	Were any of the professional development activities and ASD strategies helpful?
Does the professional development increase the special education participating teachers' knowledge of ASD?	All questions 1 to 13 Q10. One main distinction between Asperger's syndrome and Autism is?
Does the professional development provide specific teaching strategies directly related to students with ASD?	Name two specific strategies that are useful in reducing anxiety in students with an ASD.
Do special education teachers have positive responses to a professional development on ASD after attending two sessions?	Would you recommend other educators to attend this professional development? Why or Why not?

The quantitative approach was based on surveys given to teachers before and after the professional development. The survey questions were taken from the ASD Inventory Section 2. Ten of the multiple choice questions developed by Algonquin Child and Family Services' School Support Program – Autism Spectrum Disorder (SSP-ASD; see Appendix B) were included as a way to capture changes in teachers' knowledge of ASDs.

Special education teachers from eight public elementary schools from a large local district in Southern California were invited to attend a 2-day session (total 300 minutes or 5 hours per day) of professional development for special education teachers. At the beginning of the professional development, teachers were given the ASD Inventory as a pre survey. During the 2-day professional development sessions, on day one, special education teachers learned general knowledge of ASDs. On day two, teachers learned effective teaching strategies and techniques for better meeting the needs of children with ASDs. After the professional development, teachers were given the ASD Inventory to complete.

The qualitative portion of the design involved interviews from the participants conducted by the researcher. After the 2-day professional development, the researcher interviewed randomly selected participants. The interview covered special education teachers' perceptions of the professional development, the presentation and components of the 2-day professional development, their personal experience participating in past professional development opportunities, and what they learned that they would they like to take with them.

### **Subjects and Consent Procedures**

Thirty-five credentialed special education teachers located in a local district in Southern California composed the population of this research study. The special education teachers who participated in this study have taught special education for over 5 years in K-5 schools in the Los Angeles Unified School District. There are 5,299 students attending the eight schools represented, 125 students of which are diagnosed with Autism. A letter of consent for participation was sent to the special education administrator who oversees all of the schools in the district.

For this study the professional development facilitator was the special education administrator from the host school where the professional development was held. The facilitator has credentials in special education and in administration. The facilitator has taught special education for 10 years, has been a special education principal for 5 years, and has conducted several professional development sessions in public school sites. The researcher acted as a participant observer during the 2-day professional development sessions.

A flyer describing the professional development was sent to all of the special education teachers in the district (see Appendix C). The flyer asked special education teachers to participate in a professional development on ASDs. Teachers were required to have a special

education credential and teach students with Autism in elementary classrooms. The flyer included the details of the professional development including the fact that raffle prizes would be given away. Those teachers who responded to the flyer received a consent form. The consent form was sent via email to all special education teachers who volunteered to participate (see Appendix D). The special education administrator collected consent forms from all of the special education teachers.

### **Site Selection and Demographic Profile**

The schools that were selected for this study were public schools in urban areas of Southern California. These schools were selected based on location near the school where the professional development was held.

Eight schools with approximately 35 special education teachers were invited to participate in the research. There are approximately 5,299 students attending the eight schools, 125 of whom have Autism. The student demographics are as follows: Hispanic 58.5%, Blacks 40.7%, White 0.4%, Asian 0.1%, Pacific Islander 0.1%, Filipino 0%, and Alaskan 0.2%. All schools have children with ASDs attending general education classes, Mental Retardation (MR) classes, and/or Specific Learning Disability (SLD) classes.

### **Instrumentation**

The quantitative data collection involved an adaptation of the ASD Inventory developed by Algonquin Child and Family Services' SSP-ASD. The original inventory was designed to evaluate the dissemination and acquisition of knowledge related to ASDs and evidence-based practices (LeBlanc et al., 2009). The inventory consists of 16 questions; the first three questions focus on perceptions of students with ASDs, 10 multiple-choice questions focus on knowledge of ASDs, and the last three questions focus on teaching strategies. The adaptations to the survey

were piloted with four special education teachers who did not participate in the study to assess whether the questions were clear and easy to read.

### **Data Collection**

The inventory was given to all participants before the start of the first day of the 2-day professional development (see Appendix B). Participants signed letters of consent before completing the inventory instruments (see Appendix D for letter of consent). The post inventory was administered to participants at the end of day two of the professional development.

Participation in this study was anonymous and voluntary. Participants did not receive offers of payment or any form of reward; however, snacks were provided during the professional development. A raffle was held throughout the sessions, giving away educational prizes the special education teachers to use as tools in their classrooms. The researcher gave information that addressed the following elements of the research study to all participants: the purpose of the study, procedures, potential risks and discomforts, payment information, confidentiality, participation and withdrawal, identification of investigators, and rights of research subjects. The identities of all participants in this research study were protected.

### **Professional Development**

**Day one.** Prior to the professional development session participants were asked to complete the ASD Inventory, which served as the pre-assessment. On day one of the professional development, the professional development facilitator presented the learning objectives for the day: (a) the specific characteristics of ASD, (b) the diagnostic criteria for the different disorders on the Autism spectrum, (c) recognizing the communication learning styles of students with ASD, (d) defining functional behavioral analysis and applied behavioral analysis of Autism, and (e) identifying and applying strategies to meet the needs of students with an ASD in the

classroom. After presenting the day's goals there was a facilitated discussion among the participants followed by facilitated activities to build skills and knowledge. The activities included *Jig Saw*, dividing the participants into small groups and charting out facts, then presenting them to the whole group. The second activity was investigating scenarios of students with ASD. The third activity was *Whip Around*; each participant took turns stating one fact he/she learned from the first session of the professional development.

**Day two.** Day two of the professional development was related to teaching strategies and techniques that can be used to assist students with ASDs. Objectives for this session included:

1. Learning tools that can be used in assessing stress and anxiety in ASD students;
2. Identifying factors that affect motivation and influence behavior; and
3. Recognizing the range of strategies that can be used to teach social skills, and applying how to apply these strategies to help decrease students' anxiety levels.

Activities included but were not limited to:

1. Social interventions *Chunk and Chew* group presentations. Each group was asked to examine interventions, summarize the intervention, describe possible situations to apply the intervention, and identify and describe steps for designing the intervention.
2. Case study analysis, identifying a social skill to target, discussing a social intervention design from the ones listed previously, designing the intervention, and providing a rationale;
3. A final summary activity stating an important fact that stood out from the professional development about ASDs.

At the end the 2-day professional development, participants were given a two-part assessment instrument. The first part was the ASD Inventory, given again as the post-test

assessment. The purpose of administering the post-test was to assess how much the participants learned from the professional development sessions about children with ASDs, what strategies best support the students, and if their perceptions of students with ASDs had changed.

The second part of the survey gave participants an evaluation form pertaining to the structure and delivery of the professional development on ASDs (see Appendix E). The purpose of this evaluation was to measure participants' initial satisfaction with the experience (Guskey, 2000).

### **Data Process and Analysis**

The researcher employed a mixed methods approach for this research study, using both qualitative and quantitative methodologies. The researcher collected data from the ASD Inventory (pre and post surveys) and interview responses from selected participants. For the quantitative data, the researcher created a score sheet and scored all participants' inventories. Then the researcher created a chart to record participants' scores. For the qualitative interviews, the researcher looked for commonalities and differences, created themes, and recorded the information. The researcher drew conclusions from the information taken from the interviews.

**Qualitative data: Interviews.** The researcher gathered evidence of special education teachers' thoughts about the professional development and their understanding of ASDs through interviews. Twenty participants were asked to participate in the interviews. The participants were recruited through random selection. The interview consisted of nine questions and was conducted face to face at the professional development site (host school). The interview questions were based on participants' thoughts about the professional development and their perceptions of students with ASDs (see Appendix A).



After the interviews were completed, the researcher gathered all the data in a database and organized them by specific categories into a spreadsheet. The researcher reviewed data by checking for missing information, as well as common and uncommon responses among special education teachers.

**Quantitative data.** The researcher gathered all the inventory pre and post assessments. The researcher examined only the first three questions from the ASD Inventory for each participant. The researcher created a section subtitled *Perceptions* under teachers' responses to the professional development. Using a 4-point Likert Scale, each question's value ranged from 0 (strongly disagree) to 3 (strongly agree). In order to obtain a cumulative score, the researcher combined the participants' selected values to provide a numerical result ranging from 0 to 9. The purpose of using a value system was to observe a change in teachers' perceptions.

**Instruments/baseline data.** The researcher scored questions 1 to 13 on the ASD Inventory using a score sheet based on answers from the researcher's selected text. The researcher recorded participants' scores on a chart: the first column for pre assessment and the second column for post assessments. The researcher compared the pre assessment and the post assessment in order to see if teachers' knowledge and skills increased after the 2-day professional development sessions. The researcher examined the information to ensure all data were recorded.

**Data analysis.** The initial data analysis consisted of reviewing all 35 participants' inventory pre and post assessments in order to determine if the professional development was effective in changing participants' perceptions and knowledge of students with ASDs and an increasing teachers' ability to assist students with ASDs. The three questions regarding perception on the ASD inventory were isolated to create a subsection, *Perceptions*, using each

individual question's value ranging from 0 (strongly disagree) to 3 (strongly agree) for the first part of the inventory. Then, to gain a cumulative score, all three scores from the questions were combined to provide numerical results from 0 to 9.

To determine whether the professional development was effective in increasing participants' knowledge, the participant's responses from the 10 multiple-choice questions were converted into yes or no responses. A yes response indicated that the participant has the correct answer. The last three questions were scored with the value of 1 for each correct short answer, with a total of 6 points. The total score for participants' increased knowledge ranged from 0 to 16. To determine whether the professional development was effective in increasing participants' knowledge of teaching strategies, the correct responses for all short-answer questions were combined to create a value range of 0 to 4.

To investigate the effects of participants' perceptions, increased knowledge, and increased teaching strategies, SPSS for Windows was used to organize and analyze the data. To test the hypothesis of this study, paired-samples t-tests were used to determine significant findings.

### **Validity and Reliability**

According to Leblanc et al. (2009), there were concerns about the validity and reliability of the research they conducted. There were concerns about participants not answering questions from the ASD Inventory, which was the same instrument used in this research. There was a possibility that the questions were too clinically focused and the participants might have had a difficult time answering the questions because of two factors: the participants' teaching experience and the amount of information gained from the professional development. As a result,

the questions would have had to be modified in order for participants to answer each question on the ASD Inventory.

In this research, the researcher used participants who have been teaching for 5 years or more to ensure the research was valid and reliable. The researcher made sure that all questions were answered and recorded properly in order to obtain the best results.

Maintaining confidentiality was important during the process of this study. The researcher was the only one who had access to the data from surveys and interviews. All data and participant information were stored on a computer and controlled by the use of a password that only the researcher possessed. All hard copy documentation (surveys, interviews, and notes) was kept in a locked file cabinet. All participant names were marked out on all documentation and a coding system was used in place of their names.

Individual participants received information on the purpose and focus of this study at the beginning of the study. The confidentiality of the participants in this study was protected. In order to ensure participant protection, the researcher guaranteed protection through IRB (see Appendix F).

### **Methodological Assumptions and Limitations**

This research study was limited to eight public schools, but the professional development was only conducted at one site. During the research study, participants were given a pre and post assessment, a questionnaire, and interviews; they participated in a 2-day professional development and had the opportunity to evaluate the professional development session.

There are four possible limitations in this study:

1. Before the study, participants were asked about their experience, if any, working with students with ASDs. This may have affected the results of the study if there was a

teacher who was well experienced in working with students with ASDs, in that this person may not have demonstrated a significant change in his/her results.

2. Some of the questions on the ASD Inventory may be too clinically focused for special education teachers.
3. The school administrator at the research site may view this study as a support for the researcher's dissertation rather than a true study to support special education teachers in professional development growth and opportunities.
4. The time during which the study was conducted was limited.

### **Summary**

This chapter described the methods and processes that were used to offer insight into a professional development to help special education teachers assist children with ASDs. This study examined how special education teachers respond to and learn from a professional development on students with ASDs. The study sought to determine best practices for special education teachers in a professional development and if teachers' knowledge and skills of ASDs was increased after a 2-day professional development.

## **Chapter 4. Data Analysis and Results**

The purpose of this study was to examine the effects of a 2-day professional development for special education teachers of students who have ASD. In addition, this study assessed changes in teachers' perceptions of students with ASD, determined teachers' knowledge gains from participating in professional development opportunities regarding ASD, and provided strategies to participants to meet the needs of students with ASD. Finally, this study provided information regarding best practices for professional development for special education teachers during the 2-day professional development.

The researcher used a mixed methods approach. The qualitative approach was based on interviews with special education teachers about their history of special education training, how they felt about professional development for special education teachers, their thoughts about the research on professional development for teachers of students with ASD, and what they learned from the professional development about ASD (see Appendix A). For this study, 20 out of 35 participating special education teachers were randomly selected for interviews.

The quantitative approach was based on pre and post surveys given to 35 teachers before and after a professional development opportunity. The survey questions were taken from the ASD Inventory Section 2. Ten of the multiple choice questions developed by Algonquin Child and Family Services' SSP-ASD (see Appendix B) were included as a means to capture changes in teachers' knowledge of ASDs. To test the hypothesis of this study, that a professional development on ASDs would increase the knowledge of special education teachers, paired samples t-tests were conducted to determine changes in teachers' perception of teaching students with ASD, technical knowledge of ASD, and understanding of strategies to assist students with ASD.

To determine whether the professional development was effective in changing teachers' perceptions about students with ASD, a 4-point Likert scale was used. Each question's value ranged from 0 (strongly disagree) to 3 (strongly agree). In order to obtain a cumulative score, the research combined the participants' selected values to provide a numerical result ranging from 0 to 9.

To determine whether the professional development was effective in increasing participants' knowledge of ASD, the participants' responses from the multiple-choice questions were converted into yes or no response. A yes response indicated that the participant had the correct answer. This method was used only for the researcher's score sheet to remind the researcher which questions were correct. The last three questions were scored with the value of 1 for each correct short answer with a total of 6 points. The total score for participants' increased knowledge ranged from 0 to 16 points.

Finally, to determine whether the professional development was effective in increasing participants' knowledge of teaching strategies, participants had to provide two specific strategies for reducing anxiety in students with ASD and two strategies that teachers could use to teach students with ASD social skills and social interaction. Each correct response was worth 1 point. For this section of the assessment, the point to each short-answer question was combined to create a value range 0 to 4 points.

The paired-samples t-test results showed that the professional development increased teachers' knowledge of ASD, increased their knowledge of teaching strategies to support students with ASDs, and slightly changing their perceptions of students with ASD. The following sections discussed coding and analysis for this study, the results of ASD perceptions,

technical knowledge, and teaching strategies after a 2-day professional development: the three components of the conceptual framework for this research study.

### **Review of Research Questions**

The overarching research question explored whether or not a professional development on ASDs increases the knowledge of special education teachers. Three sub-questions were derived from the overarching research question:

1. Does the professional development changes teachers' perceptions of students with ASD?
2. Does the professional development increase the special education teachers' knowledge of ASD?
4. Does the professional development provide specific teaching strategies directly related to students with ASDs' success?

The following sections provide a detail description on how the researcher coded and analyzed the results in order to answer the research questions for this study.

### **Coding and Analysis**

For this study, a coding system was put in place using numbers beginning with 001 to protect the confidentiality of the participants in this study. Participants' surveys and interview sheets were coded with a number. The numbers were also used as a reference in obtaining and analyzing the results. Once the participants completed the pretest on day one of the professional development, the researcher began to number the surveys in the right hand corner of each survey. Then the researcher scored each participant survey. The researcher recorded the scores on a score sheet with the coded number of the participant in the left column and the scores in the right column. After the participants completed the posttest, the coding and scoring process was

repeated. For the interviews in this study, the participants were randomly selected from the surveys. The interview sheets were marked with the same numerical codes given used for the surveys.

For the interviews, the researcher gathered all the data into a database and organized it by specific categories into a spreadsheet. The researcher reviewed data by checking for missing information, as well as common and uncommon responses among special education teachers. The categorical themes were: age, gender, ethnicity, level of education, and years of teaching. Instead of using participant names, their codes were input into the database along with Xs marked in the categories that applied to each participant. The purpose of creating the chart was to analyze the data and to find commonalities in participants' responses to the interview questions.

In analyzing the results of this research study, it was found that after 2 days of professional development on ASD there were changes between the participants' pretest and the posttest scores in all three areas: teachers' perceptions of students with ASD, technical knowledge, and teaching strategies. In addition, the results showed commonalities among the participants' interview responses. Twenty out of 35 participants were randomly selected for the interview. After interviews were conducted, the researcher gathered all data, recorded it, and found that all 20 participants gave the same answers for questions one, three, and five. For question one—how do you feel about professional development for special education teachers?—participants stated that there is a need for more professional development for special education teachers. For question three—what are your thoughts about the research on professional development on students with ASDs?—participants stated that there needs to be more research on ASDs. For question five—should there be more professional development offered to special education teachers?—participants stated yes. In analyzing the data further, the



researcher found 13 out of 20 participants who were interviewed taught special education for 20 years or more. Twenty-eight women and seven men participated in this study. Both men and women shared the same thoughts about professional development for special education teachers.

### **Results of Teacher Perceptions of Students with ASD**

To measure the teachers' perceptions of students with ASDs, three questions from the ASD Inventory were used (see Table 2). The overall results for perception indicated that the professional development did have an effect on changing teachers' perceptions of students with ASD. Therefore, the professional development supported the hypothesis that the professional development would change teachers' perceptions of ASD. An analysis of each question indicated mixed results between the pretest and the posttest for questions A, B, and C. In further analysis, the pretest results showed that teachers rated each question on the 4-point Likert scale with a 2 (agree) or 3 (strongly agree), indicating positive perceptions of teaching students with ASD before the two professional development sessions started (see Table 3).

Table 2

#### *ASD Inventory Section 1 – ASD Perceptions*

Question	ASD Inventory Item
A	I would be comfortable teaching in a classroom that has at least 1 student diagnosed with an ASD.
B	In most cases, a student with an ASD can be successfully integrated into a regular classroom provided that training and support are available.
C	I would currently know how to access professional support and resources to assist me in meeting the needs of a student with an ASD.

Table 3

*Results of ASD Perceptions*

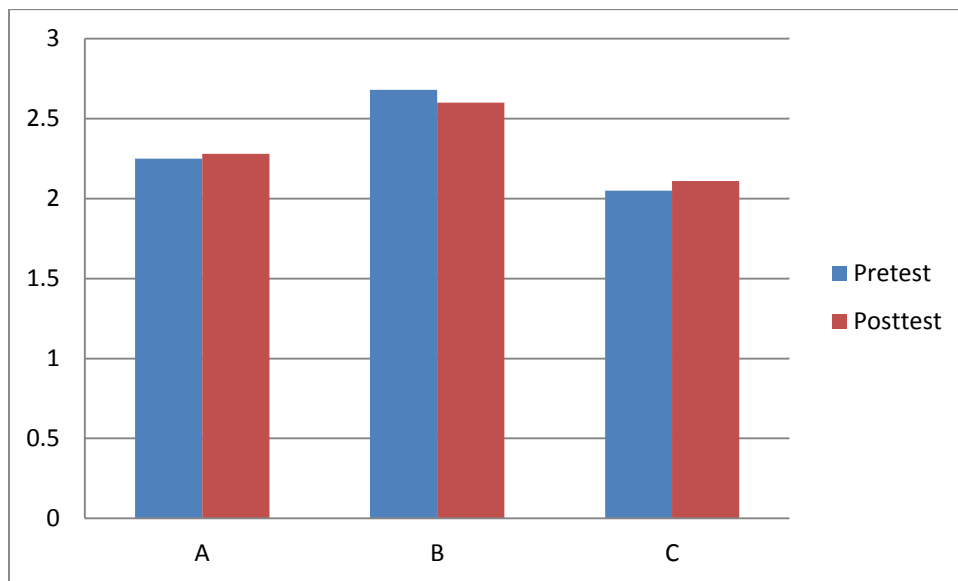
	<u>Assessments</u>			<u>Questions</u>					
	Pretest*	Posttest*	Gain Between Assessments	<u>A*</u>		<u>B*</u>		<u>C*</u>	
				Pre	Post	Pre	Post	Pre	Post
Mean	2.32	2.33	0.01	2.25	2.28	2.68	2.60	2.05	2.11
Standard Deviation	3.20	2.78		0.44	0.43	0.46	0.48	0.24	0.32

\*  $N = 35$ 

Three questions focused on perceptions of students with ASD. The first question asked, I would be comfortable teaching in a classroom that has at least 1 student diagnosed with an ASD. There was a slight increase between the pretest and the posttest. The second question asked, In most cases, a student with an ASD can be successfully integrated into a regular classroom provided that training and support are available. There was no significant difference between the pretest and the posttest. The third question asked, I would currently know how to access professional support and resources to assist me in meeting the needs of a student with an ASD. There was a significant increase between the pretest and the posttest. Analysis of the results indicates that after attending the professional development, teachers know how to access professional support and resources to assist them in meeting the needs of students with ASDs.

The questions asked under perceptions focused on what teachers think. Figure 2 represents the changes of teachers' perceptions of students with ASD. The blue bar represents the pretest and the red bar represents the posttest. The letters represent the questions in the ASD perceptions section. Letter A is the first question, I would be comfortable teaching in a classroom that has at least 1 student diagnosed with an ASD. Letter B is the second question, In most cases, a student with an ASD can be successfully integrated into a regular classroom provided that training and support are available. Letter C is the third question, I would currently know how to

access professional support and resources to assist me in meeting the needs of a student with an ASD.



*Figure 2. Changes in participants' perceptions of ASD.*

### **Results of Technical Knowledge of ASD**

The 2-day professional development was conducted to examine whether it would yield an increase in teachers' knowledge of ASD. To measure an increase of participants' knowledge of ASD, there were 10 multiple-choice questions and three short-answer questions on the ASD Inventory. The original ASD Inventory developed by Algonquin Child and Family Services' SSP-ASD (see Table 4). The complete version of the ASD Inventory is shown in Appendix B. The participants were to choose an answer for each question. All questions that were correct were marked with a yes and the correct answers were added to obtain a total score for that section of the inventory. For the last three questions, each answer had a value of 1 and all three questions were worth 6 points. The total score for technical knowledge was 16 points.

Table 4

*ASD Inventory Section 2 – Technical Knowledge Questions*

Question	ASD Inventory Item
Multiple Choice Questions	
1.	One of the purposes of the functional behavioral assessment is to?
2.	What does the Autism intervention approach referred to as ABA stand for?
3.	According to the Durand Motivational Assessment Scale, what factors motivate and influence behavior?
4.	According to the <i>Diagnostic and Statistical Manual of Mental Disorders IV</i> , what criteria in terms of qualitative impairment in communication are required for a diagnosis of Autism?
5.	According to the Diagnostic and Statistical Manual of Mental Disorders IV, what criteria in terms of restricted repetitive patterns of behavior, interest, and activities are required for a diagnosis of Autism spectrum disorder?
6.	What specific disorder falls under the umbrella of the Autism spectrum?
7.	In most cases of Autism, the triad of impairment emerges at what age?
8.	What does A-B-C of a functional behavior analysis stand for?
9.	What communication system involves the student using picture symbols to communicate expressively?
10.	One main distinction between Asperger's syndrome and Autism is?
Short-answer questions	
11.	When discussing the field of ASD, what is the triad of impairment?
12.	List 2 of the main functions of behavior for children with an ASD?
13.	List 1 assessment tool to assess stress and anxiety in students with ASD.

Paired-sample t-tests were used to measure significant difference between the pretest and the posttest (see Table 5). The results indicate that there was a significant increase between the pretest and the posttest. In analyzing the results, regarding the first research question—Does the professional development increase the special education participating teachers' knowledge of ASDs?—the answer is yes, the professional development increased the special education participating teachers' knowledge of ASDs.

Table 5

*Results of Statistically Significant ASD – Technical Knowledge Questions*

	Pretest*	Posttest*	Gains	t-test	Probability
Mean	7.34	11.8	4.46	t (35) = -6.28	p = .00
Standard Deviation	3.20	2.78			

\* N = 35

## Results of Increased Knowledge of Teaching Strategies

To measure increased knowledge of teaching strategies, two short, related questions on teaching strategies were included in the ASD Inventory (see Table 6). The hypothesis for this section was that professional development provides specific teaching strategies directly related to students with ASD success. The participants were to name four teaching strategies for this part of the inventory. The results indicated a significant difference between the pretest and the posttest. Therefore, there was a significant increase in knowledge of teaching strategies (see Figure 3). Evidence from the ASD Inventory posttest and teacher participation indicated that participants learned strategies to meet the needs of students with ASDs.

Table 6

### *ASD Inventory Section 3 – Teaching Strategies*

ASD Inventory Item
List 2 specific strategies that are useful in reducing anxiety in students with an ASD.
List 2 strategies that you can use to teach a student with an ASD about social skills and social interaction.

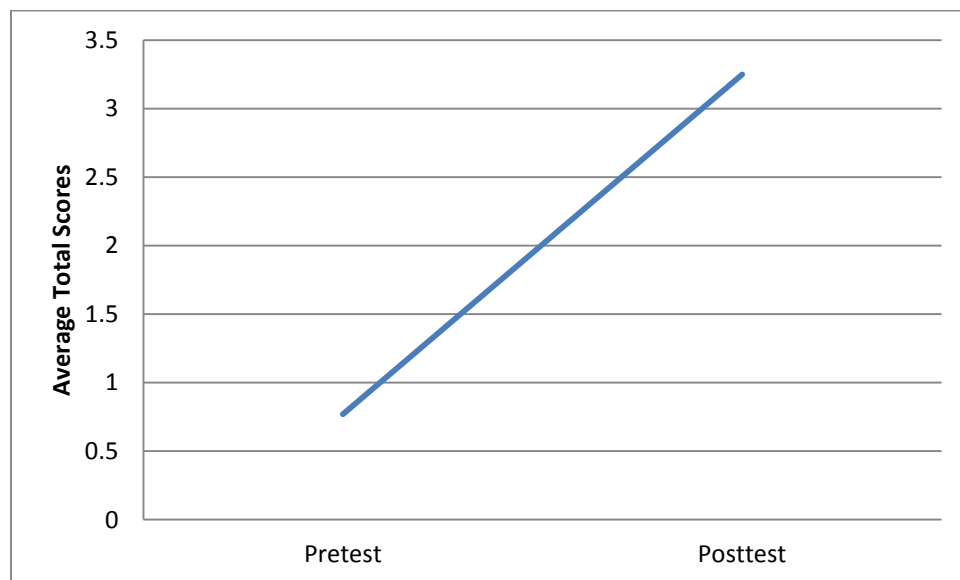


Figure 3. Increased knowledge of ASD teaching strategies.

In section three, teaching strategies, Figure 3 depicts the significant increase between the pretest and the posttest. The pretest had a mean score of 0.77 and the posttest had a mean score of 3.25.

## **Interviews**

After the 2-day professional development, an interview protocol was used to ask participants questions and gather evidence of special education teachers' thoughts about the professional development and their understanding of ASD. Interviews were conducted with 20 teachers who were randomly selected. The interview consisted of nine questions and was conducted face to face at the professional development site (host school). The interview questions are based on thoughts about the professional development and perceptions of students with ASD (see Appendix A).

An analysis was conducted of the responses of the 20 interview participants. Teachers' ages ranged from 25 to 65. Five men and 15 women were interviewed. Sixteen teachers were African American, seven teachers were Hispanic, three teachers were Caucasian, and one teacher was Asian. Six of the teachers possess a Bachelor's degree in education and 14 teachers possess a Master's in education. All teachers who participated in the study have taught special education for more than 5 years. Included in Table 7 is the information about participants' age, gender, ethnicity, degrees, and years of teaching special education.

Table 7

*Participants' Demographic Information*

Participant	Age	Gender	Ethnicity	Education	Years of Teaching Special Education
1	53	F	African American	B.A.	20
2	37	F	African American	B.A.	7
3	50	F	Hispanic	M.S.Ed.	25
4	56	F	African American	M.S.Ed.	22
5	45	M	Hispanic	M.S.Ed.	20
6	45	M	Hispanic	M.S.Ed.	20
7	52	F	Hispanic	M.S.Ed.	21
8	37	M	African American	M.S.Ed.	15
9	47	F	African American	M.S.Ed.	21
10	49	M	Caucasian	M.S.Ed.	20
11	43	F	African American	B.A.	12
12	52	F	Caucasian	M.S.Ed.	25
13	38	F	Hispanic	B.A.	8
14	48	M	Hispanic	B.A.	19
15	46	F	African American	M.S.Ed.	20
16	40	F	African American	M.S.Ed.	15
17	27	F	Hispanic	B.A.	5
18	54	F	African American	M.S.Ed.	20
19	40	F	Asian American	M.S.Ed.	15
20	57	F	Caucasian	M.S.Ed.	25

Through observations and interviews during the professional development, teachers offered positive comments and were actively engaged in the activities. One participant stated, “The presentation from the facilitator was really good. I enjoyed listening to the stories about students with ASD who became successful in today’s society.” All 20 teachers stated that professional development on ASD for special education teachers is needed. For example, one participant stated,

There are not enough professional developments for special education teachers. Usually special education teachers attend professional developments that are for general education teachers. Since the number of students with ASD is increasing, special education teachers need more professional developments on ASD.

When asked about their comfort level teaching students with ASD, results indicated two teachers were uncomfortable, 13 teachers were somewhat comfortable, and 5 teachers were very comfortable (see Table 8). Those teachers who were uncomfortable and somewhat comfortable teaching students with ASD had some experience with students with ASD in their classrooms in the past 5 years.

Table 8

*Participants' Comfort Levels Teaching Students with ASD*

Total Participants	Uncomfortable	Somewhat Comfortable	Very Comfortable
20	2	13	5

When teachers were asked about research on professional development on students with ASD, 19 teachers stated that there is a need for more research on professional development for working students with ASD. When the question, what did you learn from the professional development was asked, 12 teachers stated they learned about what strategies can be used to meet the needs of students with ASD, four teachers stated they learned about the criteria of ASD, two teachers stated they learned both strategies for teaching ASD and criteria for diagnosing ASD, and two teachers stated they learned students with ASDs can grow up and become successful adults. Teachers were asked, would they recommend other educators to attend this professional development? Why or Why not? Twenty teachers stated they would recommend this professional development to other teachers because they felt it was much needed due to the increased number of students with ASD in their schools. Participant 1 stated:

I would recommend this PD to other special education teachers, because special education teachers rarely meet together to collaborate as a team. Since there is an increase of students with Autism attending our schools, attending PDs will remind teachers what to do to meet the needs of students with Autism.



Participant 4 stated:

I think the 2 days of professional development was really good. It helps me to realize the number of students with Autism has been increasing and being prepared to teach them is important. All educators including principals should attend this professional development so they can understand what it takes to meet the needs of students with Autism.

Participant 10 stated:

I noticed I received at least five students with ASD within 3 years in my class. All five students have different characteristics of Autism. This PD on Autism was a big help in the area of strategies. I recommend teachers who have students with Autism to take this PD to help them better understand Autism and learn how they can meet the needs of their students.

Participant 13 stated, "I recommend this professional development to other educators. Since the state of California has mandated special education teachers to gain a certificate added to our credential and children with Autism is on the rise, this PD is definitely needed." Participant 17 stated:

I recommend this PD to other teachers, because Autism is a big issue and it seems as if the number of children with Autism is increasing. As educators we have to know what to do to meet the needs of children with Autism.

Finally, when asked if more professional development opportunities on ASD should be provided to special education teachers, all 20 participants responded that it would be beneficial. One of the participants said, "Professional developments on ASD can keep special education teachers updated on current issues and what strategies work and what strategies that do not work for students with ASD."

## **Key Findings**

Through observation, the researcher found that participants responded well during the 2-day professional development. They were engaged in the activities and sharing their teaching experiences with each other. The participants attended and participated actively in the professional development for 2 days, even though it was held after their normal work hours.

The researcher found that participants had asked more questions on ASD than expected. Some questions focused on student behavior and other questions focused on criteria of ASD. The researcher concluded that an extra day of professional development would be helpful to teachers, as it would give teachers the opportunity to ask questions and receive answers.

As a result of participants' discussions on the importance of professional development about ASD, professional development about ASD should be provided to general education teachers, administrators, and supportive staff. Professional development on ASD can better equip all educators to support and mainstream students with ASD into general education.

These key findings on the 2-day professional development on ASD can be helpful in planning for future professional development sessions on this topic. For those educators who would want to plan a professional development on ASD, they can use the activities such as *Jig Saw* and *Chunk and Chew* used in this professional development. If there is a need for a short professional development on ASD, this study can be used as an example to create a 2-day professional development on ASD.

## **Summary**

The purpose of this study was to examine the effects of a 2-day professional development for special education teachers of students who have ASD. The overarching question for this study asked whether or not a professional development on ASDs increases the knowledge of

special education teachers. This chapter presented the results of the data taken from participant surveys and interviews.

This study used a mixed methods approach. The quantitative approach was based on pre and post surveys using the ASD Inventory given to 35 teachers before and after the professional development. The qualitative approach was based on interviews with 20 special education teachers about their history of special education training, how they feel about professional development for special education teachers, their thoughts about the research on professional development about students with ASD, and what they learned from the professional development about ASD.

A sample t-test was used to test the hypotheses of this study. Participants were tested in three components of the conceptual framework: perceptions, technical knowledge, and teaching strategies. The results from the area of perceptions indicated mixed results; however, there were changes between the pretest and the posttest. An analysis of responses shows that participants' perceptions of working with students with ASDs did not change. The results from the area of technical knowledge indicated a significant increase between the pretest and the posttest. In analyzing the survey results, participants learned about ASD from the professional development. Finally, the results from the area of teaching strategies indicated a significant increase between the pretest and the posttest. The participants learned what strategies can be used to meet the needs of students with ASD by attending the professional development for ASDs.

Interviews were conducted after the professional development. Twenty teachers were randomly selected to be interviewed by the researcher. Nine questions were asked in the interviews. The interview questions were based on participants' thoughts about the professional development and perceptions of students with ASD. All participants had taught for over 5 years,

and all agreed that there needs to be more professional development opportunities for special education teachers. Thirteen out of 20 teachers stated that they felt somewhat comfortable teaching students with ASD, and participants felt there is a need for more research on ASDs to better understand the disorders. These findings indicate that the 2-day professional development does increase special education teachers' knowledge of ASDs.

## **Chapter 5. Summary, Conclusions, and Recommendations**

The purpose of this study was to examine the effects of a 2-day professional development on ASDs for special education teachers. The professional development included general knowledge of ASDs and teaching strategies that can be used in the classroom to assist children with ASDs. The study was also designed to obtain special education teachers' perceptions of working with students with ASDs. The overarching question for the research study was: Does a professional development on ASDs for special education teachers increase their knowledge of ASD and awareness of strategies for teaching students with ASD? The research questions were:

1. Does the professional development changes teachers' perceptions of students with ASD?
2. Does the professional development increase the special education teachers' knowledge of ASD?
3. Does the professional development provide specific teaching strategies directly related to students with ASDs' success?

The population of the study included 35 K-5<sup>th</sup> grade certificated special education teachers who are currently teaching in a local school district in Southern California. All teachers have taught for over 5 years. Fifty invitations were sent out via email to special education teachers to participate in the study. A total of 35 special education teachers responded and volunteered to participate in the study. For the interview part of the study, 20 out of 35 participants were randomly selected.

The research design and instrumentation used to collect data allowed the researcher to analyze the effectiveness of a 2-day professional development on ASDs for special education teachers. The instrument used was the ASD Inventory. The following are two sample questions:

1. What specific disorder falls under the umbrella of Autism Spectrum?
2. In most cases of Autism, the triad impairment emerges at what age?

This chapter discusses the findings from the research study, its limitations, and implications for future research.

## **Analysis**

### **Professional development's impact on teachers' perceptions of students with ASD.**

The teachers' perceptions of teaching students with ASD yielded mixed results, but the overall score indicated an increase between the pretest and the posttest. The participants' perceptions of students with ASDs were positive. The first section of the ASD Inventory had three questions focused on teachers' perceptions of students with ASD.

1. Teachers were asked whether they would be comfortable teaching in a classroom that has at least one student diagnosed with an ASD. The results indicated an increase in teachers' perceptions of teaching students with ASD. Teachers' thoughts and attitudes of teaching children with ASD were positive. Therefore, this was a positive change.
2. Teachers were asked whether a student with ASD can be integrated successfully into a regular classroom provided that training and support are available. The results indicated there was no significant difference between the pretest and the posttest, and teachers' perceptions remained positive.
3. Teachers were asked if they currently know how to access professional support and resources to help meet the needs of a student with ASD. The results indicated a significant change in teachers knowing how to access professional support and resources. Therefore, it was a positive change.

According to LeBlanc et al.'s (2009) research study, the results of ASD perceptions indicated a significant change in teachers' perceptions about children with ASD. Leblanc et al. stated, "The training sessions were effective in changing participants' attitudes and perceptions about students with ASD" (p. 172).

Twenty teachers were selected randomly for interviews in this research study. Teachers were asked, what is your comfort level teaching students with ASDs? Uncomfortable, Somewhat, Comfortable, or Very Comfortable? Tell me why? The majority of the participants who were interviewed stated they were somewhat comfortable in teaching students with ASD. For those participants who were somewhat comfortable, they stated that they currently do not have any students with ASD in their classrooms. However, they have had experience with students with ASD in their classrooms within the past 5 years. Voltz (2001) conducted a study examining the perceptions of special education teachers in professional development schools, interviewing 24 teachers about their perceptions of consulting and collaborating with pre-service teachers. Overall, the teachers felt that consulting and collaborating with pre-service teachers contributed to their professional growth. In addition, they learned new ideas from pre-service teachers to support students with disabilities in the classroom. This study along with other studies proved that attending professional development sessions does have an effect on changing teachers' perceptions.

#### **Professional development's impact on teachers' knowledge of students with ASD.**

Technical knowledge of ASD increased as a result of a 2-day professional development. Special education teachers who attended a 2-day professional development increased their technical knowledge of ASD. The participants were given the pretest at the beginning of the professional development and the results showed that the scores were low. After the 2-day professional

development, the posttest was given and the results showed the scores were higher. Therefore, there was an increase in teachers' knowledge of ASD after attending a 2-day professional development on ASD.

As discussed in the literature review, LeBlanc et al. (2009) showed that attending 200 minutes of professional development on ASDs did enhance teachers' general knowledge of ASDs and practices used to support children with ASDs. The researchers stated that their findings seem to indicate that "even a small amount of professional development opportunity can have a measurable influence" (p. 177) on both special education teachers and students with ASD.

**Professional development's impact on ASD teaching strategies.** The professional development provided teachers with teaching strategies to help them meet the needs of students with ASD. In order for teachers to answer questions in section three, teaching strategies, in the ASD Inventory, various teaching strategies were presented in the 2-day professional development. On the second day of the professional development, teachers examined and summarized social interventions, described possible situations to apply the interventions, and identified steps for designing interventions. Teachers analyzed case studies, identifying social skills and discussing social interventions. These activities allowed teachers to learn and practice using strategies to assist students with ASD. The results from the research study indicated there was a significant change in teachers learning teaching strategies. Therefore, the 2-day professional development was successful in providing teachers with ASD teaching strategies.

After 200 minutes of professional development, LeBlanc et al. (2009) found the training was effective in providing teaching strategies. The results from the ASD Inventory indicated a significant increase in teachers' scores on listing two strategies that are useful for reducing anxiety in students with ASD and listing two strategies that teachers can use to teach students



with an ASD about social skills and social interaction. This study and the study conducted by LeBlanc et al. (2009) are consistent in showing a significant increased knowledge of teaching strategies after providing teaching strategies in a professional development focused on ASD.

### **Limitations**

This study has certain limitations. One limitation may have been that some of the questions from the inventory were too clinical. In the technical knowledge section, the questions on the criteria of ASD seemed to be difficult for the participants. The researcher noticed that certain questions on the last part of the technical knowledge section of the pretest and posttest were not answered by more than four participants. Those questions were based listing functions of behavior and assessment tools for anxiety and stress. There may be a possibility that participants were not aware of the criteria of ASDs before the professional development or had forgotten the information after the professional development.

Another limitation could have been that the professional development had no effect on participants in the area of perceptions. Participants had so much experience with students with ASD that their perception of teaching students with ASD was not affected.

Finally, the time of the professional development was limited. If the professional development was extended for one more day, the questions that are considered to be too clinical on the ASD Inventory would have been addressed with more details to aid the participants' memory. There could have been more activities and discussions to help those teachers who may have forgotten this information or are currently learning about ASD.

### **Implications**

Guskey (2000) described many different models of professional development. The research study used a training and observation/assessment model. Participants were receiving

training in ASD. The researcher observed the professional development sessions, and assessments were given to participants before and after the professional development.

The researcher took notes during the 2-day professional development. On the first day, the participants were given a brief description of the research study and a consent form to sign. Once the introduction and overview of the research study were completed, participants were given the pretest. The participants' facial expressions, gestures, and body language made them seem as if the test was making them tense. Some participants closed their eyes, and others seemed as if they were thinking. The researcher made a note of this because some participants paused from writing for a short period of time. Some participants had to sit upright a few times. There is a great possibility participants may have forgotten some facts of ASD or have not received training on ASD.

Once the professional development session began, participants seemed to enjoy the presentation. Participants asked several questions about the characteristics of ASD and what to look for in a student that might have Autism, but has not been diagnosed with the disorder. For future professional development, a question and answer session can be added to the professional development at the end of the day. The researcher found that participants were asking questions throughout the session, which delayed the next activity and prolonged the professional development by 10 minutes.

During both days of the professional development, participants were engaged in the group activities. Some participants demonstrated a great deal of knowledge of ASD in small and whole groups. During the first day of the professional development, participants were engaged in investigating scenarios of students with ASD. Participants shared their own experiences and made connections with the scenarios in the activity. On the second day of the professional

development, participants were engaged in the *Chunk and Chew* and case studies activities. The participants used social intervention skills to identify factors that affect motivation and influence behavior, describe steps to design an intervention, and apply it to a situation.

According to Guskey (2000) evaluating professional development provides a clear view of what professional development looks like education. In this study, after the 2-day professional development participants, were given an open-ended learning evaluation form to fill out. The purpose of the evaluation form was to inform the researcher about their thoughts regarding the professional development (see Appendices E and G): what they learned, what was helpful, what was least helpful, what they want to learn, and their appreciations, concerns, and suggestions.

The researcher noticed that all the participants enjoyed the professional development presentation on ASD. The participants enjoyed working in small groups and sharing their experiences working with students with ASD. Participants learned about what social skill strategies work for students with ASD. Participants would like to learn more strategies to meet the needs of students with ASD. All participants agreed there was nothing that was least helpful in the professional development. They would like to see more professional development opportunities on special education issues offered to special education teachers. Some participants felt general education teachers need to attend professional development on ASDs because there are students with ASD in general education classes. Participants reported that general education teachers are always asking special education teachers about strategies they can use in the classroom.

Finally, participants wanted more information about ASD. For future professional development sessions on Autism, an additional day maybe needed for covering the history of ASDs and what research has to say about how children develop ASD.

## Recommendations

The main purpose of this study was to examine the effects of a 2-day professional development for special education teachers of students who have ASD. The results of this study indicated that the professional development was successful in meeting the goals of this research. The study also indicated that participants learned a great amount of information on ASD within the short time of the professional development. Participants learned social skill strategies to help meet the needs of students with ASD. Participants learned about the different types of ASDs. Evidence of learning was shown through the ASD Inventory, observation of the activities performed by participants, and interviews and evaluation forms.

The most effective activity for participants learning about ASD was the case studies. The participants investigated scenarios of students with ASD in small groups. Participants made connections to the scenarios through life experiences with students with ASD. For future professional development activities on ASD, activities on investigating scenarios of students with ASD are recommended because participants can benefit in learning different ways to teach social skills to students with ASD through investigating scenarios.

The ASD Inventory was an effective instrument for this research; however, minor adjustments and accommodations need to be made to help educators complete the survey. Developers need to make adjustments to the ASD Inventory. Multiple choice answers need to be added to the inventory prior to using it in future professional development opportunities on ASD. In this study, the answer choices were generated by the researcher. The accommodations needed for this inventory would be a terminology sheet and reference sheet from the *Diagnostic and Statistical Manual of Mental Disorders IV-TR* (American Psychiatric Association, 2000).

An additional day of professional development could be added for a question and answer session. The researcher noticed that the participants asked a great number of questions. Since this was only a 2-day professional development, there was only enough time to present the topic, do the activities, and answer a few questions during the professional development sessions.

The professional development on ASD can be done with participants who have taught less than 5 years. Having participants with less experience teaching students with ASD would yield different results.

Finally, the professional development needs to be offered to all educators, including administrators and supporting staff, in order to meet the needs of students with ASDs. This professional development on ASD can better equip all educators to support and mainstream students with ASD into general education.

## **Conclusions**

The number of children with ASDs is growing rapidly in the United States. Autism affects one in 88 children and one in 54 boys; it is the fastest growing serious developmental disability in the United States (Wright & Wright, 2014). Researchers have yet to find out how children develop ASD. Since there is a growing number of children with ASD in the United States (Leblanc et al., 2009) and research is still being conducted on how ASD is developed in children, there is a need for all teachers to learn how to meet the needs of children with ASD. Through professional development, teachers can learn technical knowledge and strategies to meet the needs of children with ASD. Teachers can better understand ASD and be better equipped to serve children with ASD in the classroom.

To summarize the study, the goal was to examine the effects of a 2-day professional development for special education teachers of students who have ASDs. The professional

development covered three components: perceptions, technical knowledge, and teaching strategies. Perceptions focused on what the teachers thought about teaching children with ASD. Technical knowledge focused on factual information about ASD. Technical knowledge is what teachers need to know to understand children with ASD. Teaching strategies focused on strategies teachers need to learn in order to meet the needs of students with ASD.

For this study, the researcher used a mixed methods approach, using both qualitative and quantitative methodologies. The qualitative approach was based on interviews from special education teachers about their history of special education training and their thoughts on professional development regarding ASD.

The quantitative approach was based on surveys given to teachers before and after the professional development. The survey questions were taken from the ASD Inventory developed by Algonquin Child and Family Services' SSP-ASD.

Special education teachers from eight public schools located in Los Angeles County were sent flyers inviting them to participate in this research study. Thirty-five participants responded and participated in this study. Consent forms were sent to them via email and collected by the school administrator. The 2-day professional development was facilitated by the special education principal at the host school. Participants took the pretest and posttest; they were engaged in the presentation given by the special education principal and activities. Participants demonstrated their engagement by asking questions and participating in the activities.

After the professional development, participants gained information and strategies to help them meet the needs of students with ASD. Participants indicated through conversations among each other that the professional development and the information presented was helpful to them in teaching their students with ASD social skills. They also indicated that the professional

development helped them learn how to control students' emotions and reconstruct their classroom environment.

Professional development is an essential part of developing teacher skills in educating students with ASD. Teachers need to plan to attend professional development opportunities continuously throughout the school year. The purpose of a professional development is to keep teachers updated on issues, policies, curriculum, and strategies that will better equip them to be successful in the classroom and to meet all needs of students with ASD.

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## APPENDIX A

### Interview Questions

1. How do you feel about professional development for special education teachers?
2. What is your comfort level teaching students with Autism Spectrum Disorders?  
Uncomfortable, Somewhat Comfortable, or Very Comfortable? Tell me why?
3. What are your thoughts about the research on professional development on students with Autism Spectrum Disorders?
4. What did you learn from the professional development?
5. Should there be more professional developments offered to special education teachers?
6. How many years have you been teaching?
7. What is the highest degree of education you have obtained?
8. Do you currently have a student with an Autism spectrum disorder?
9. Would you recommend other educators to attend this professional development? Why or Why not?

## APPENDIX B

### Autism Spectrum Disorder (ASD) Inventory

Name \_\_\_\_\_

Autism Spectrum Disorder (ASD) Inventory  
Age \_\_\_\_\_ Gender \_\_\_\_\_ Ethnicity \_\_\_\_\_ Level of Education \_\_\_\_\_ Years Teaching \_\_\_\_\_

#### Section 1 –ASD Perceptions

---

Circle your choice

Choose only one

- A. I would be comfortable teaching in a classroom that has at least 1 student with an ASD.
  - B. In most cases, a student with an ASD can be successfully integrated into a regular classroom provided that training and support are available.
  - C. I would currently know how to access professional support and resources to assist me in meeting the needs of a student with an ASD.
- 

#### Section 2 – Technical Knowledge Questions

---

##### Multiple Choice Questions

1. One of the purposes of the functional behavioral assessment is to?
  - A. To identify underlying causes of behavior
  - B. To develop positive alternate behavior
  - C. Both A and B
2. What does the Autism intervention approach referred to as ABA stand for?
  - A. Analytical Behavior Assessment
  - B. Applied Behavior Analysis
  - C. Antecedent Behavior Assessment
3. According to the Durand Motivational Assessment Scale, what factors motivate and influence behavior?
  - A. People
  - B. Activities
  - C. Both A and B
4. According to the *Diagnostic and Statistical Manual of Mental Disorders IV*, what criteria in terms of qualitative impairment in communication are required for a diagnosis of Autism?
  - A. Lack of social or emotional reciprocity
  - B. Failure to develop peer relationships appropriate to developmental level
  - C. Both A and B
5. According to the *Diagnostic and Statistical Manual of Mental Disorders IV*, what criteria in terms of restricted repetitive patterns of behavior, interest, and activities are required for a diagnosis of Autism spectrum disorder?
  - A. Persistent preoccupation with parts of objects
  - B. Lack of spontaneous seeking to share enjoyment, interests, or achievements with other people
  - C. Neither A or B

6. What specific disorder falls under the umbrella of the Autism spectrum?
  - A. Autistic Disorder
  - B. Asperger's Disorder
  - C. Both A and B
7. In most cases of Autism, the triad of impairment emerges at what age?
  - A. 2 years
  - B. 5 months
  - C. 3 years
8. What does A-B-C of a functional behavior analysis stand for?
  - A. Ask, Behave, Call
  - B. Angry, Behavior, Consequences
  - C. Antecedent, Behavior, Consequences
9. What communication system involves the student using picture symbols to communicate expressively?
  - A. Picture Exchange
  - B. Comic Strips
  - C. Neither A or B
10. One main distinction between Asperger's syndrome and Autism is?
  - A. Echolalia
  - B. Constantly talk for long periods of time
  - C. Impaired use of nonverbal communication and have difficulty reading and sending nonverbal messages

Short –answer questions

11. When discussing the field of ASD, what is the triad of impairment?
12. List 2 of the main functions of behavior for children with an ASD?
13. List 1 assessment tool to assess stress and anxiety in students with ASD.

---

Section 3 – Teaching Strategy – Related Questions

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List 2 specific strategies that are useful in reducing anxiety in students with an ASD.

List 2 strategies that you can use to teach a student with an ASD about social skills and social interaction.

## APPENDIX C

### Research Flyer

# Research Participants Needed for Dissertation Study



## A Professional Development on Autism Spectrum Disorders for Special Education Teachers

This study will examine how special education teachers respond to and learn from a professional development on students with Autism Spectrum Disorders.

Participants must be special education teachers with the following background:

- Have graduated from a four-year college or university
- Must have a special education credential
- Currently teaching students with Autism spectrum disorders (ASD) or have taught students with ASD

Participants will be involved in a two-day professional development: attending sessions, completing surveys, and interviews.

**Giveaways! Giveaways! And more Giveaways!**  
There will be raffles throughout the professional development.



The study will be conducted on April 21 & 22 2015 at Success Academy.

For more information and to participate in this study, please contact LaShunda Murphy at [REDACTED] between the hours of 3pm to 6pm daily.

Thank you in advance for your participation in this study.

Pepperdine University  
Graduate School of Education and Psychology  
Doctoral Candidate, LaShunda Murphy



## APPENDIX D

### Consent Form

#### INFORMED CONSENT FOR PARTICIPATION IN RESEARCH ACTIVITIES

Participant: \_\_\_\_\_

Principal Investigator: LaShunda Murphy

Title of Project: A Professional Development on Autism Spectrum Disorder for  
Special Education Teachers

1. I \_\_\_\_\_, agree to participate in the research study being conducted by LaShunda Murphy under the direction of Dr. Nancy Harding in Education in Organization Leadership at Pepperdine University, Graduate School of Education and Psychology.
2. The overall purpose of this research will examine the effects of a 2-day professional development for special education teachers on students who have Autism Spectrum Disorder. The importance of this study is to examine the effectiveness of a professional development for special education on Autism Spectrum Disorders.
3. My participation will involve the following: Completing a pre and post survey, being observed in professional development activities, and being interviewed after professional development sessions.
4. My participation in the study will take two days to complete. The study shall be conducted in a local public elementary school.
5. I understand that the possible benefits to myself or society from this research are gaining confidence in working with students with Autism Spectrum Disorders (ASD) and learning strategies that will assist children with ASD.
6. I understand that there are certain risks and discomforts that might be associated with this research. These risks include: boredom and fatigue. In order to minimize the risks, there will be short breaks and a time for raffle giveaways during the professional development.
7. I understand that my estimated expected recovery time after the experiment will be immediate recovery.
8. I understand that I may choose not to participate in this research.

9. I understand that my participation is voluntary and that I may refuse to participate and/or withdraw my consent and discontinue participation in the project or activity at any time without penalty or loss of benefits to which I am otherwise entitled.
10. I understand that the investigator(s) will take all reasonable measures to protect the confidentiality of my records and my identity will not be revealed in any publication that may result from this project. The confidentiality of my records will be maintained in accordance with applicable state and federal laws. Under California law, there are exceptions to confidentiality, including suspicion that a child, elder, or dependent adult is being abused, or if an individual discloses an intent to harm him/herself or others. I understand there is a possibility that my medical record, including identifying information, may be inspected and/or photocopied by officials of the Food and Drug Administration or other federal or state government agencies during the ordinary course of carrying out their functions. If I participate in a sponsored research project, a representative of the sponsor may inspect my research records.
11. I understand that the investigator is willing to answer any inquiries I may have concerning the research herein described. I understand that I may contact LaShunda Murphy at [REDACTED] or email at [REDACTED], if I have other questions or concerns about this research. If you have questions about your rights as a research participant, contact Dr. Thema Bryant-Davis, Chairperson of the Graduate & Professional School Institutional Review Board at Pepperdine University, via email at [REDACTED] or at [REDACTED].
12. I will be informed of any significant new findings developed during the course of my participation in this research which may have a bearing on my willingness to continue in the study.
13. I understand that in the event of physical injury resulting from the research procedures in which I am to participate, no form of compensation is available. Medical treatment may be provided at my own expense or at the expense of my health care insurer which may or may not provide coverage. If I have questions, I should contact my insurer.
14. I understand to my satisfaction the information regarding participation in the research project. All my questions have been answered to my satisfaction. I have received a copy of this informed consent form which I have read and understand. I hereby consent to participate in the research described above.

---

Participant's Signature

---

Witness

---

Date

---

Date

I have explained and defined in detail the research procedure in which the subject has consented to participate. Having explained this and answered any questions, I am cosigning this form and accepting this person's consent.

---

Principal Investigator

---

Date

## APPENDIX E

### Open-Ended Learning Evaluation Form

<b>Evaluation Form</b>	
<b>Topic:</b> _____ <b>Date:</b> _____	
<b>Position:</b> _____ <b>Grade/Content Area:</b> _____	
<b>I learned ...</b>          	
<b>Most helpful ...</b>          	<b>Least helpful ...</b>          
<b>I would like to learn ...</b>          	<b>Appreciations, Concerns, Suggestions ...</b>          

Evaluation Form taken from *Evaluating Professional Development* (p. 130), by Guskey, T. R., 2000, Thousand Oaks, CA: Corwin. Copyright (2000) by Sage Publications Company. Reprinted with permission.

## APPENDIX F

### IRB Approval

# PEPPERDINE UNIVERSITY

## Graduate & Professional Schools Institutional Review Board

March 6, 2015

LaShunda Murphy

Protocol #: E1214D03

Project Title: A Professional Development on Autism Spectrum Disorders for Special Education Teachers

Dear Ms. Murphy:

Thank you for submitting your application, *A Professional Development on Autism Spectrum Disorders for Special Education Teachers*, for exempt review to Pepperdine University's Graduate and Professional Schools Institutional Review Board (GPS IRB). The IRB appreciates the work you and your faculty advisor, Dr. Harding, have done on the proposal. The IRB has reviewed your submitted IRB application and all ancillary materials. Upon review, the IRB has determined that the above entitled project meets the requirements for exemption under the federal regulations (45 CFR 46 - <http://www.nihtraining.com/ohsrsite/guidelines/45cfr46.html>) that govern the protections of human subjects. Specifically, section 45 CFR 46.101(b)(2) states:

(b) Unless otherwise required by Department or Agency heads, research activities in which the only involvement of human subjects will be in one or more of the following categories are exempt from this policy:

**Category (2) of 45 CFR 46.101**, research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: a) Information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and b) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

Your research must be conducted according to the proposal that was submitted to the IRB. If changes to the approved protocol occur, a revised protocol must be reviewed and approved by the IRB before implementation. For any proposed changes in your research protocol, please submit a **Request for Modification Form** to the GPS IRB. Because your study falls under exemption, there is no requirement for continuing IRB review of your project. Please be aware that changes to your protocol may prevent the research from qualifying for exemption from 45 CFR 46.101 and require submission of a new IRB application or other materials to the GPS IRB.

A goal of the IRB is to prevent negative occurrences during any research study. However, despite our best intent, unforeseen circumstances or events may arise during the research. If an unexpected situation or adverse event happens during your investigation, please notify the GPS IRB as soon as possible. We will ask for a complete explanation of the event and your response. Other actions also may be required depending on the nature of the event. Details regarding the timeframe in which adverse events must be reported to the GPS IRB and the appropriate form to be used to report this information can be found in the *Pepperdine University Protection of Human Participants in Research: Policies and Procedures Manual* (see link to "policy material" at <http://www.pepperdine.edu/irb/graduate/>).

Please refer to the protocol number denoted above in all further communication or correspondence related to this approval. Should you have additional questions, please contact Kevin Collins, Manager of the

Institutional Review Board (IRB) at [gpsirb@pepperdine.edu](mailto:gpsirb@pepperdine.edu). On behalf of the GPS IRB, I wish you success in this scholarly pursuit.

Sincerely,

A handwritten signature in dark ink, appearing to read "Thema Bryant-Davis". The signature is fluid and cursive, with the first name "Thema" being the most prominent.

Thema Bryant-Davis, Ph.D.  
Chair, Graduate and Professional Schools IRB

cc: Dr. Lee Kats, Vice Provost for Research and Strategic Initiatives  
Mr. Brett Leach, Compliance Attorney  
Dr. Nancy Harding, Faculty Advisor

## APPENDIX G

### Permission Letter for Use of Previously Copyrighted Material

[permissions \(US\) <permissions@sagepub.com>](mailto:permissions@us.sagepub.com)  
To [LaShunda Murphy](#)

12/31/15 at 9:30 AM

Dear LaShunda Murphy,

Thank you for your request. You can consider this email as permission to use the material as detailed below in your upcoming dissertation. Please note that this permission does not cover any 3<sup>rd</sup> party material that may be found within the work. We do ask that you properly credit the original source, *Evaluating Professional Development*. Please contact us for any further usage of the material.

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